

WHAT IS CLAIMED IS:

1. A method of transmitting a physical layer information stream having a plurality of sub-blocks, each sub-block having an error correction code, ,
5 and a priority if the sub-blocks have a different QoS(Quality of Service), comprising the steps of:

dividing the encoded physical layer information stream into a plurality of slots;

sequentially transmitting the divided slot data to a receiver in
10 predetermined time intervals; and

re-transmitting slot data with a sub-block having an error repeated within the number of the sub-blocks after transmission of initial slot data, upon receipt of an HARQ (Hybrid Automatic Repeat Request) message for the initial slot data from a receiver, indicating that at least one of the sub-blocks in the initial slot
15 data has a reception error indicating failure and the other sub-blocks are good in reception.

2. The method of claim 1, wherein if the failed sub-block having an error is transmitted at least twice, the slot data repeats only the failed sub-block
20 and includes the number of the sub-blocks.

3. The method of claim 1, wherein the sub-blocks are encoded using quasi-complementary turbo codes (QCTCs).

4. The method of claim 3, wherein a code set is generated prior to initial transmission and the initial transmission is performed using a predetermined code in the code set.

5 5. The method of claim 1, wherein if at least one sub-block is retransmitted after the sub-blocks are transmitted a predetermined number of times, the code of the retransmission-requested sub-block is changed.

6. The method of claim 5, wherein the code is changed to an
10 unused code in the code set in a predetermined order.

7. The method of claim 6, wherein upon receipt of a retransmission request after retransmission-requested sub-blocks are transmitted using all the codes of the code set, the retransmission-requested sub-block is transmitted
15 using a code selected in the predetermined order starting from the code for initial transmission.

8. The method of claim 2, wherein repetition times of failed sub-blocks are determined according to the priorities of the sub-blocks have a
20 different QoS.

9. The method of claim 8, wherein if the number of the transmitted sub-blocks is an integer-multiple of the number of the failed sub-blocks, the failed sub-blocks are repeated the same times if the failed sub-blocks have the

same priority.

10. The method of claim 9, wherein if the sub-blocks are transmitted at least twice and a signal is received before the sub-blocks are transmitted at least twice, indicating that the transmitted sub-blocks have been successfully received in the receiver, the transmission of rest of the sub-blocks to be transmitted is discontinued and transmitting a next physical layer information stream having a plurality of sub-blocks.

10